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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,357	09/23/2005	Tsunchisa Namiki	Q87270	7770
23373 7590 04/29/2010 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
EXAMINER				
VAN, QUANG T				
ART UNIT		PAPER NUMBER		
3742				
NOTIFICATION DATE		DELIVERY MODE		
04/20/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

sughrue@sughrue.com
PPROCESSING@SUGHRUE.COM
USPTO@SUGHRUE.COM

Office Action Summary

Application No.

10/530,357

Applicant(s)

NAMIKI ET AL.

Examiner

Quang T. Van

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-16 and 27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,3,5-16 and 27 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB06)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ ~~Notice of Informal Patent Application~~
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2, 6-8, 11-16 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams et al (US 5,616,369), previously cited, in view of Fukaya et al (US 4,700,080) new cited. Williams discloses a process for barrier coating of plastic objects comprising executing a power glow discharge (col. 10, lines 3-4) so as to carry out a reaction chiefly between organometals contained in the treatment gas and thereby form a first CVD film (col. 7, lines 1-5) on the surface of the substrate, and executing a power glow discharge (col. 10, lines 12-14) so as to react the organometals with the oxidizing gas and thereby form a second CVD film on the first CVD film (col. 7, lines 11-12). Williams also discloses the glow discharges of the first and second CVD films in the same plasma reaction chamber (col. 7, lines 1-12), the same organometals is employed for both CVD layers and executed the same frequency for glow discharges of the first and second CVD films. However, Williams does not disclose the steps of executing a low power glow discharge forming the first CVD film and executing a high power glow discharge forming the second CVD film. Fukaya discloses the steps of executing a low power glow discharge to form a layer film and executing a high power glow discharge to form another layer film (col. 17, lines 18-27). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize in

Williams the steps of executing a low power glow discharge and executing a high power glow discharge as taught by Fukaya in order to provide the proper heat for each coating layers. With regard to claims 14-16, it would have been obvious to one ordinary skill in the art at the time the invention was made to have an output waveform of the microwaves in the low power glow discharge have a oscillation time of microwave in one period is not longer than 1.5 milliseconds, and an output waveform of the microwaves in the high power glow discharge have a oscillation time of microwave in one period is not shorter than 2 milliseconds in order to have an intermittent oscillated, and discovering the optimum or workable ranges of times, is not of innovation but involves only routine skill in the art.

3. Claims 3, 5, 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams et al (US 5,616,369) previously cited, in view of Fukaya et al (US 4,700,080) new cited and further in view of Lindsay et al (US 4,395,313) previously cited. Williams/Fukaya disclose substantially all features of the claimed invention except said low power is in a range of 20-90 watts and said high power is in a range of not lower than 100 watts. Lindsay discloses a low power is in a range of 20-90 watts and a high power is in a range of not lower than 100 watts (col. 3, lines 27-31). It would have been obvious to one ordinary skill in the art at the time the invention was made to utilize in Williams/Fukaya a low power is in a range of 20-90 watts and a high power is in a range of not lower than 100 watts as taught by Lindsay in order to proper heat for each coating layers. With regard to claim 9, the term "a carbon concentration of not smaller than 15% on the basis of three elements of O, C and Si". It would have been

obvious to one ordinary skill in the art at the time the invention was made to have a carbon concentration of not smaller than 15% on the basis of three elements of O, C and Si. Doing so would provide an organic layer being rich in carbon, and selecting a carbon concentration of not smaller than 15%, is not of innovation but involves only routine skill in the art.

4. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Amendment

5. Applicant's arguments filed 1/26/2010 have been fully considered but they are not persuasive.

6. Applicants argue Fukaya et al does not disclose the steps of executing a low power glow discharge to form a first CVD film on the surface of a substrate, and executing a high power glow discharge to form a second CVD film on the first CVD film as required by present claim 27. Therefore, there is no combination of Williams et al and Fukaya et al which could ever achieve the method of claim 27. This is not found persuasive. Williams discloses substantially all features of the claimed limitations as disclosed above including the glow discharges of the first and second CVD films in the same plasma reaction chamber (col. 7, lines 1-12), the same organometals is employed for both CVD layers and executed the same frequency for glow discharges of the first and second CVD films. However, Williams does not disclose the steps of executing a low power glow discharge forming the first CVD film and executing a high power glow

discharge forming the second CVD film. Fukaya discloses the steps of executing a low power glow discharge to form a layer film and executing a high power glow discharge to form another layer film (col. 17, lines 18-27). It would have been obvious to one ordinary skill in the art at the time the invention was made to utilize in Williams the steps of executing a low power glow discharge and executing a high power glow discharge as taught by Fukaya in order to provide the proper heat for each coating layers. Further, Fukaya reference is cited only for the teaching of the steps of executing a low power glow discharge to form one layer and executing a high power glow discharge to form another layer. Other limitations are already taught by Williams. Furthermore, Williams and Fukaya are both related to glow discharge, therefore, one ordinary skill in the art would combine these references.

7. Applicants also argue "Since the foreign matter must be removed from the film, the vacuum evaporation cannot be continuously conducted in the same chamber (see present claim 4). This limitation is claimed only in claim 4, but not in the independent claim 27. Therefore, claim 27 is still remain rejected by the combination of Williams and Fukaya.

8. Applicants argue Lindsay et al discloses forming a film by electrodeposition, and has nothing to do with forming a metal oxide film in a plasma deposition process. This is not persuasive. Lindsay reference is only cited for disclosing a low power in a range of 20-90 watts and a high power in a range of not lower than 100 watts. Other limitations are already taught by Williams and Fukaya. Williams, Fukaya and Lindsay are all

related to glow discharge, therefore, one ordinary skill in the art would combine these references.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang T. Van whose telephone number is 571-272-4789. The examiner can normally be reached on 8:00Am 5:00Pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Quang T Van/
Primary Examiner, Art Unit 3742
April 13, 2010

Quang T Van
Primary Examiner
Art Unit 3742